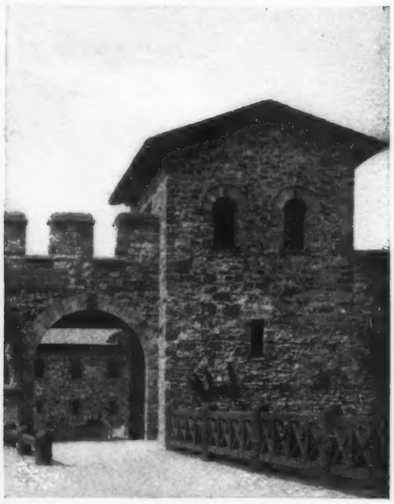
THE VILLAGE OF LIMBURG

CASTLE AND TOWER, IDSTEIN

TYPICAL BITS OF MOUNTAIN SCENERY

THE GATEWAY

THE VILLA ANDREE, KOENIGSTEIN



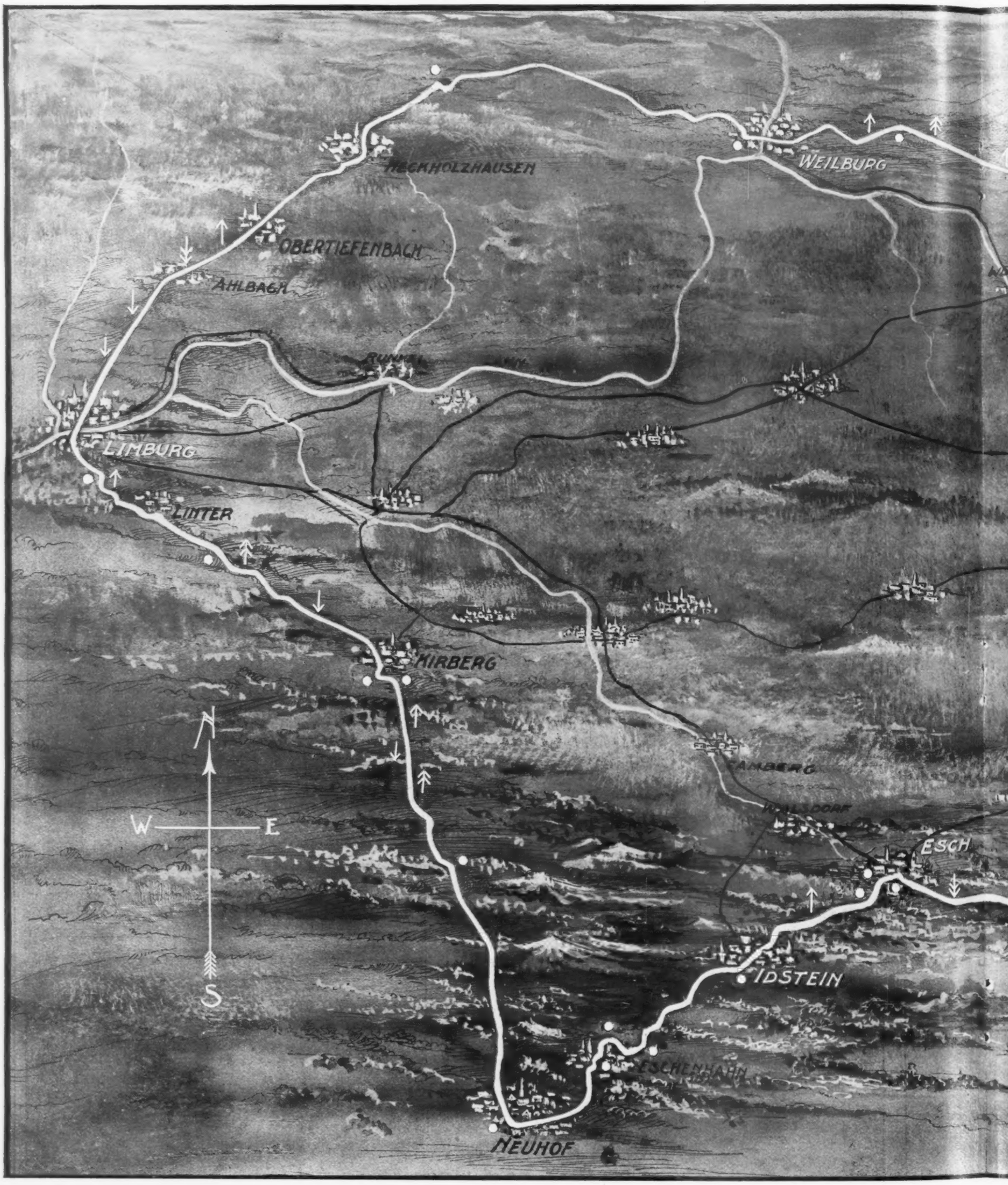
AT SAALBURG

ALONG THE CUP RACE COURSE IN GERMANY

WEILBURG, FROM THE WEST

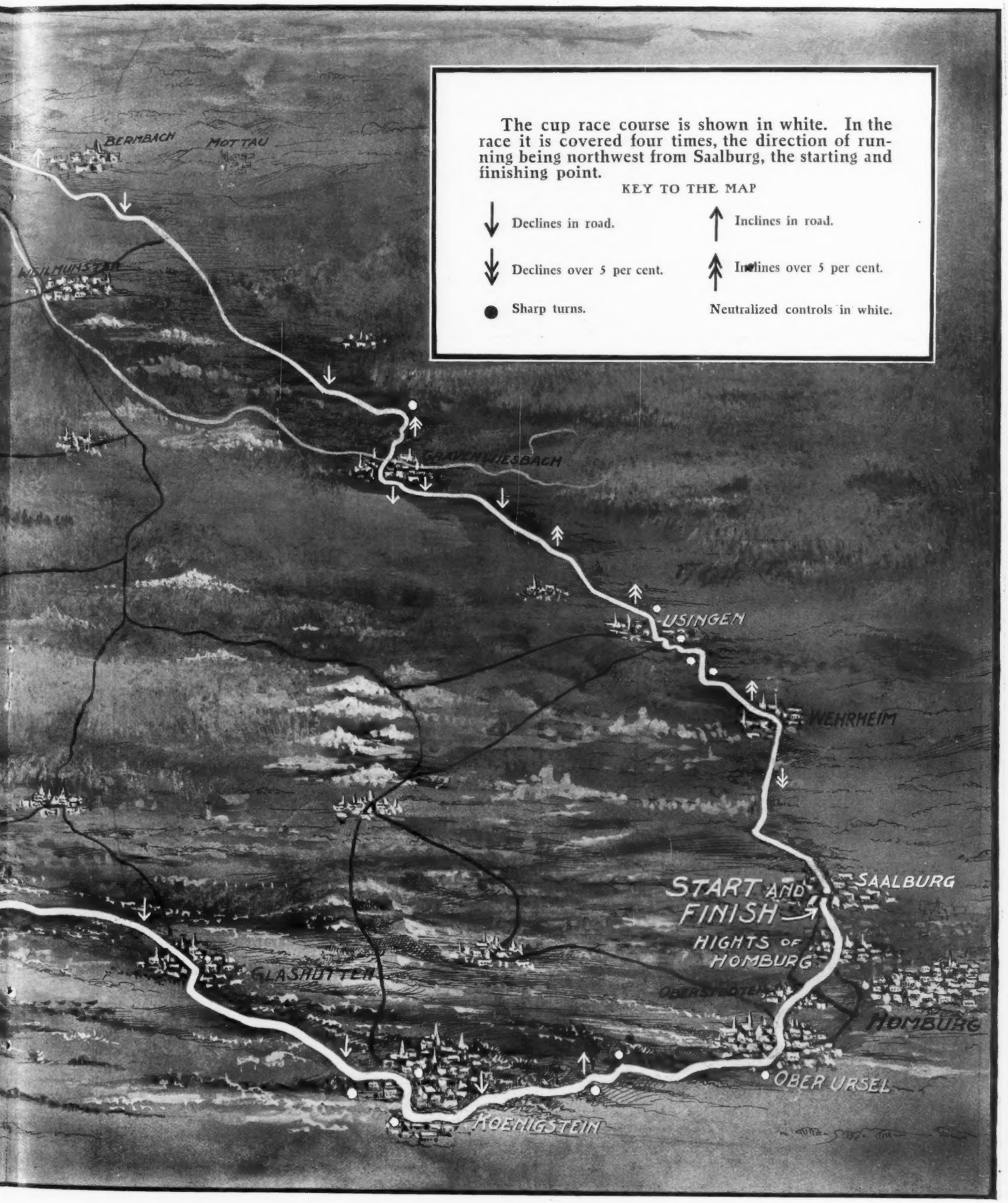
HOMBURG, FROM WINGERTSBERG

BIRD'S EYE VIEW OF THE TAUNUS



SCENE OF THE 1904 JAMES GORDON

NUS RACE COURSE IN GERMANY



BENNETT INTERNATIONAL CUP RACE

ALONG THE CUP RACE COURSE

THE FIRST BAD TURN OUT OF SAALBURG

WORST TURN ON COURSE—NEAR KIRBERG

ROAD AFTER START FROM SAALBURG

APPROACHING ESCH

FINE ROAD NEAR OBER-URSEL

DANGEROUS CORNER BETWEEN ESCH AND KOENIGSTEIN

THE BRIDGE AT LIMBURG

A SHARP TURN IN WEILBURG

HILL LEADING INTO WEILBURG

the motor and the man. When one feels any sort of laboring on the part of the engine, he should prepare in the case of hill-climbing to put in the lower gear, or if one has just changed on to a higher gear, to depress the clutch just sufficiently to relieve the load without allowing the engine to race.

EFFECT OF SPARK GAP

Rockford, Ill.—Editor MOTOR AGE—Is the external spark cap injurious to a coil? I have been using one on a motor tricycle with a French style contact breaker and coil. The latter broke down suddenly the other day, and on testing it the defect was found to be in the secondary winding. An exactly similar occurrence happened to a friend a short time ago. In neither case had the coil ever been used in connection with more than 4 volts.—J. Rouen.

The external spark gap is more likely to injure a coil than when the coil is used without one. Owing to the action which takes place an increased electro-motive force is produced between the windings of the high tension circuit, and as the insulation is arranged to suit normal conditions, more risk is involved of damaging the insulation. If a wipe contact were fitted to the cam shaft, and a high speed trembler coil were used, there would be a very efficient spark produced and practically no adjustment required.

RADIATOR DISPOSITION

Los Angeles, Cal.—Editor MOTOR AGE—Is there any good reason for carrying the radiator below the frame in front? Some cars carry the radiator above the frame in front of the bonnet, but others have it low down as a sort of apron. In my opinion it looks very ugly low down, and I want to know whether there is any advantage in carrying it in this way?—C. G. F.

There is no advantage in carrying the radiator beneath the front frame, except that the engine is more accessible on account of there being nothing in front of the bonnet. In other respects it is preferable to have the radiator placed above the frame and to fill up the space which would be occupied by the front of the bonnet, as the water is brought higher and a certain proportion of it at any rate is carried above the engine, so that the cooling system is not quite so dependent upon the proper running of the pump as when it is low down. On the other hand, however, the radiator when above the frame prevents a straight draft of cool air from striking the engine to assist in the cooling of it by direct radiation.

REPAIRING CRACKED CYLINDER

Keokuk, Ia.—Editor MOTOR AGE—Last winter during a cold spell the water jacket of the single-cylinder motor of my car was cracked. The engine itself is unaffected, but the water escapes slowly from the jacket. Can anything be done?—M. B. E.

A small crack in the water jacket of an engine is a more difficult matter to deal with than one which is of larger dimensions. In the latter case one can easily repair the fracture by means of what is known in the engineering world as a "rust joint." This is made by filling the crack with fine iron filings damped with a solution of sal ammoniac. This causes the surface of the fracture to oxidize, and with this the fine iron filings set in sufficiently hard to repair the fracture. In the present instance if the above treatment cannot, by reason of the narrowness of the fracture, be carried out, the repair will be more satisfactorily executed by simply soldering the fracture with hard solder. The surface of the jacket along the fracture should be filed bright and clean, and some acid soldering fluid run over the joint, if possibly allowing it to run in through the crack, for which purpose it would be advisable to form a V-shaped channel along the crack by means of the edge of a file. The jacket should be well warmed by the aid of a blow torch, and hard solder run into the fracture. If the torch is employed great care should be taken that the gasoline tank and the carbureter are completely emptied, and that no inflammable fumes arising from gasoline are about the car. Otherwise damage may possibly result.

GOVERNOR ADJUSTMENT

Elmira, N. Y.—Editor MOTOR AGE—I have a machine the motor of which is controlled by a governor working on a disk valve placed in the inlet pipe. At present the running of the motor is extremely erratic, as the governor seems to come into action suddenly and to cut off the mixture from the engine when it, of course, slows down and the valve is again opened. Could you give me any information as to the adjustment of the governor?—W. E.

The most likely cause of the trouble is that the governor weights are not sufficiently heavy to exert the force necessary to overcome the strength of the governor spring. The result is that the throttle valve is held nearly full open until such time as the weights have attained, by a high velocity, sufficient power to compress the spring, which, when the force is applied, shuts up comparatively suddenly, thus allowing the valve to close. The fitting of a lighter and more flexible spring in place of the present one will overcome this difficulty. The smooth running of the engine may further be secured by drilling a small hole through the butterfly valve in the inlet pipe. As a general rule this should be about ¼-inch in diameter, which is big enough to allow sufficient mixture to pass the valve to keep the engine running smoothly. The disadvantage in this case is that the motor cannot be stopped by the throttle.

WHAT THE LAW MAKERS ARE DOING

Mile in 10 Minutes—There have been many complaints about too fast driving in Baltimore, Md., recently. The police department has issued instructions that offenders be promptly arrested. According to the ordinance motor cars must not be driven at a greater speed than 1 mile in 10 minutes.

Pretty Particular—After July 1 owners of automobiles in Burlington, Ia., must secure a license from the state secretary. The following information must be given by the motorist: Name of owner, postoffice address, name of machine, manufacturer's number, horsepower, motive power, style of car, passenger capacity, general description, name of former owner, his postoffice address, number of former registration.

Iowa Compromise—The state automobile law recently manufactured in Iowa is a sort of compromise between the lenient and drastic laws of other states. It is good in the respect that the act is brief and to the point. It provides that the automobilist must register his car with the secretary of state, who will give him an aluminum trading stamp for $1. This aluminum seal is not to be over 2 inches in diameter and it states that the automobilist has been formally and properly separated from his dollar and is henceforth to be known as No. —. This badge of honor is to be placed on the vehicle and must be supplemented by the usual number plate, which will also bear the initials of the state. By then

adding a white lamp in front, a red one in the rear, a bell by the side and a brake under foot, the automobilist is considered ready to tackle the highways, which he may use to the extent of 10 miles an hour in closely built-up sections of cities, 15 miles an hour in loosely-joined portions and 20 miles an hour on the open road. He must use due sense and caution on bridges and corners and must not stand still on railway crossings "when the whistle sounds or the bell rings." He is furthermore subject to the "hand-up" stopping authority of the farmer, passing with domestic or other sacred animals. Non-residents are exempt from the registering clause if they carry the register of their own state.

Sioux City's Law—An ordinance concerning the speed of automobiles was recently introduced by the judiciary committee of the city council of Sioux City, Ia. It provides a limit of 6 miles an hour in the business district and 10 miles an hour in other parts of the town. A penalty of $25 will be imposed for a first offense and $25 to $50 for each subsequent offense.

After Scorchers—The board of trustees of the village of Solvay, just west of Syracuse, N. Y., is the latest in that vicinity to demand the enforcement of the ordinance regulating the speed of vehicles in the streets. Since the new tar-macadam pavement was laid from Solvay it has been a favorite speedway for automobilists, and complaint was made that they were running so fast that they have become a menace to the safety of the people. If warning is not heeded arrests will be made.

Think Law Invalid—The case against D. C. Miller, of Grand Rapids, Mich., has been dropped by the police department of that city because it was found that if the ordinance concerning the licensing of automobiles were to come up in court the decision would be in favor of the motorists, as the law is considered invalid.

Rather Discriminating—City Attorney Wright, of Omaha, Neb., has rendered an opinion concerning the automobile law which was recently passed. He said that every automobile owner in the city must have a permit for each and every machine he owns. It was thought by some motorists that one permit covered any number of cars. The permits are not assignable and must be carried by the operator of the car at the time he is using it. Manufacturers and dealers may take out a permit for an automobile and after the machine is sold use the permit for another machine.

FROM THE FOUR WINDS

Electric of Course—Officials of the Western Union Telegraph Co. will shortly start on an inspection tour and will use for conveyance an electric vehicle.

Banqueted the Winner—The Georges Richard-Brazier concern gave a banquet in honor of Thery, the winner of the Ardennes race. There were nearly 600 guests, most of whom were employes of the company .

Jenatzy Burned Out—Fire destroyed the electrical works of the Jenatzy brothers, at Brussels, Belgium. It is reported that some valuable papers concerning recent inventions made by the two brothers have been lost.

Has Hopes—A German minister recently said that the motor cycle industry is becoming so important in Germany, and so many of these little machines are being used, that it will soon become one of the greatest industries of the Fatherland.

Bullock Sparking—The Bullock-Beresford Mfg. Co., of Cleveland, O., has recently issued several interesting circulars explanatory of the various forms of the Bullock igniter for gasoline motors, the original pattern of which was described in MOTOR AGE some time ago.

How To Become Popular—Automobile tours are becoming quite the fad among public officials striving for popularity. Mayor Alan C. Fobes, of Syracuse, N. Y., gave all the city officials an outing to South Bay a few weeks ago and Saturday afternoon Dr. Frederick W. Smith, health officer of the same place, took his subordinates out in automobiles.

Broke Road Record—Dr. C. J. Dove, on a Thomas motor cycle, and Ellworth Adams, on a Columbia motor bicycle, broke the motor cycle road record from Muskegon, Mich., to Whitehall, Mich., by covering the 17 miles separating the two localities in 32 minutes, which is 2 minutes faster than the former record of Paul Stamson. Dr. Dove weighs 264 pounds and Mr. Adams 141 pounds.

Miller Expands—Charles E. Miller, 97 Reade street, New York, dealer in automobile parts and appurtenances, has leased another building, wherewith to open a new store, this time at 202 Columbus avenue, Boston, and he will thus be able to start a vigorous campaign right in the midst of the automobile trade territory of the Hub. The store faces on three streets and Miller expects to do business on all sides, working toward the middle, where will be a brand new burglar proof safe.

Farmers Endorse Automobiles—There was a meeting of the Madison County Farmers' Club at the home of Samuel Maag in Lafayette, Ind., last week which was interesting. The principal discussion was the reading of a paper on automobile laws by Martin Fentress, in which he endorsed automobiles but argued that the general public should be protected while on the roads. He claimed that most automobilists traveled at too great a speed on the country roads and lives and property were endangered. The law of Ohio governing the running of motor cars was read and it was the opinion among those present at the meeting that the next Indiana legislature should be asked to pass a similar measure.

Toured New England—A successful automobile trip, lasting 10 days, was recently completed in a Winton touring car by a party consisting of A. F. Rockwell, manager of the New Departure Mfg. Co.; C. T. Treadway, J. J. Jennings, Judge R. S. Newell and Edward J. Schalk. The trip was from Bristol, Conn., to Lake Memphremagog, passing through Hartford, Barnet, St. Johnsbury, Lancaster, Barton and Newport, Vt., arriving on the third day. From Barton to Newport, although only 15 miles apart, the roads were so bad that it required 2½ hours to run the distance. At the lake the party rested a day. On account of clay roads it was necessary to rope the rear wheels of the car. The total number of miles traveled was 673. There were no accidents and only two punctures.

Showed Them—Automobile dealers and private owners of motor cars of Fort Worth, Tex., invited the city officials of their town and from neighboring localities to take part in an automobile parade in order to demonstrate to them how tame these lifeless animals are. A score of cars with nearly half a hundred passengers went through the streets of Fort Worth at various speeds, ending the afternoon with quick stopping and starting tests, which startled the officials.

Johnson City Excited—On June 6, between 3 and 4 o'clock in the afternoon, the first automobile ever seen by the inhabitants of Johnson City, Tenn., made its appearance in the streets of the town. Charles Nuchols was the guilty owner, on his way to a baseball game. His arrival created a sensation, stopping the game. A couple of local reporters started for the blacksmith-grocery-post-office-telegraph bureau to send the news.

No Drink, No Go?—The South Bay Hotel, at Indiana Harbor, Ind., which has been a rendezvous of Illinois and Indiana motorists, has been refused a liquor license. The county commissioners decided that according to a recent decision of the Indiana supreme court liquor could not be legally sold in a building which did not face a street or an alley. The hotel does neither, being on the shore of Lake Michigan.

Going to the Pike—It is reported that many small parties of motorists numbering from four to eight, are presently on the way to St. Louis, Mo., in automobiles. A party of seven was in Schenectady, N. Y., recently and their presence was the cause of large gatherings of townspeople to take a look at the cars.

Motor Cycle Corps—An Austrian motor volunteer corps has been formed and consists of men and reservists who are otherwise exempt from military service. The motorists are to be ranked as orderly officers, with the pay of a lieutenant.

Rougier Honored—The Automobile Club of Marseilles, France, gave a banquet in honor of Rougier, the third on the French team for the James Gordon Bennett race, and Turcat & Mery, the manufacturers of the car.

French Cab Rates—The rate charged by automobile cabs in Paris is 1 franc 25 centimes for the first kilometer.

Good Trade—More than 1,600 automobile licenses have been issued by the state secretary at Hartford, Conn., since the first of this year.

Insured Drivers—Insurance policies to the amount of $272,000 were taken out for the drivers, mechanics and cars which took part in the French Ardennes race.

Good Proportion—At a recent automobile endurance test arranged by the Touring Club of Provence, in France, there were sixty-eight cars entered, fifty-two that started and forty-one that finished the run.

After the Scribes—C. R. Culver, advertising manager of the Knox Automobile Co., of Springfield, Mass., has been touring New England the last few weeks inviting newspapermen to an inspection of the comanpy's factory to be held in another week, the exact date of which has not been set.

Just Envious—The Democrat, of Hamilton, O., says "an automobile is a nuisance of the very worst kind and ninety-nine out of 100 rural citizens will declare so. An automobile along the public roads is very dangerous to the public in general." The democratic gentlemen of the Democrat probably never were offered a ride.

Nice of His Kinglets—The King of Italy presided at the inauguration of the automobile and bicycle show at Bologne, Italy, May 23. In an address he expressed the belief that the automobile industry of Italy had become a very important factor and that everything pointed toward its ultimate success in all countries.

Committeemen Pleased—Members of the fire and light committee of the city of Montreal, Canada, inspected the fire stations of the town in automobiles last week. As there were half a dozen cars in line, the parade attracted considerable attention and the members were well satisfied not only because they had a ride but on account of the time gained by this means of conveyance.

Demand for Second-hand Cars—The sale of second-hand automobiles in Newark, N. J., is reported to be very good, and dealers are paying good prices for them as they are able to sell just as fast as they are received. The complaint is general that the factories are too slow in filling orders for new cars and that on account of it many people are cancelling their orders and purchasing second-hand machines

Castle's Surprise—"Ex-Governor" Fred E. Castle, who has for the last 10 years been as closely associated with the sale of Twentieth Century lamps as the numerous buyers thereof, has resigned as sales manager of the Twentieth Century Mfg. Co., of New York, to accept a similar position with Gray & Davis, of Amesbury, Mass. Castle has an immense acquaintance in the bicycle and automobile trade on both sides of the Atlantic, and this severing of an old and pleasant connection for a new one will probably not interrupt his continuous enterprise in behalf of enlightenment. It will bring him more closely into touch with the automobile trade and he enters the new field enthusiastically.

THE "MARION"

Air-Cooled

Light Weight

Powerful

Roomy Tonneau

Full Elliptic Springs

Spur Differential

Trimming:

Best Grade Hand Buffed Leather

Double chain drive.
Sixteen horse-power.
Weight, with tonneau, 1,400 lbs.
Wheel base, 92 inches.
Tread, 56½-inch.
Artillery wheels, 30-inch.
G. & J. Tires, 3½-inch.
Four-cylinder, vertical engine, air-cooled.
Bore, 3½-inch; stroke, 4-inch.
Automatic float-feed carbureter.
Mechanically operated inlet valves.
Aluminum crank case, enclosing two to one gears.
A perfect system of automatic lubrication.
Planetary transmission on engine shaft, with all gears enclosed.
Band brake on countershaft.
Expanding brakes in rear hubs.
Tonneau floor space, 36 x 36 inches.
Ample road clearance.

CARRYING CAPACITY, FIVE PASSENGERS

Price, with Tonneau, $1,750

OUR ENGINE MARKS A DISTINCT ADVANCE IN THE ART OF AIR-COOLING

MARION MOTOR CAR CO.

INDIANAPOLIS, IND.

TWO NEW AUTOMOBILE TIRES

The Instantaneously Detachable

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HARTFORD CLINCHER

Introducing an entirely new departure in rim construction. ∴ Its detachable side flanges or beads are removed by the simple loosening of a screw, leaving a flat faced rim, from which the tire can be removed "like slipping a belt off a pulley"—a loose belt at that, made under the G & J patents. This tire combines all the excellent qualities of that construction with many improved features of its own, hitherto characteristic only of **the foreign** makes

THE HARTFORD RUBBER WORKS CO.

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BOSTON NEW YORK PHILADELPHIA BUFFALO CLEVELAND DETROIT CHICAGO MINNEAPOLIS DENVER SAN FRANCISCO

That Decauville Car

Has been an unprecedented success this year. Reports show that we have sold more cars this season than any other importer.

French manufacturers turn out their different sizes in series of from fifty to one hundred in each size.

We are now taking orders for the second series of the 18-24 HP and for the 12-16 HP de Luxe. The 18-24 HP, new series, is the best value on the market. The chassis is extra long, and the tonneau can be entered on either side by side doors.

An examination of the chassis of "That Decauville Car" will convince even an inexperienced person of its evident superiority. It appeals to a man's "horse sense."

Is it not better to invest your money in an automobile that has the advantage of being built by an old established engineering firm, the Société Decauville, who started manufacturing automobiles ten years ago, *than to buy a four cylinder experiment?*

The Société Decauville is one of the largest and oldest engineering firms in France, and is well known in engineering circles as builders of locomotives and railway material.

We are the direct representatives of The Societe Decauville, and there are no middlemen's profits to pay.

One strong feature that will appeal to the appreciative buyer which is *an exclusive Decauville feature,* is the steel pan which supports and protects the entire mechanism, making the Decauville the most desirable car on the market for American roads.

The Decauville rear axle construction combines all the advantages of the fixed axle and the live axle, and avoids their disadvantages.

The Decauville rear wheels turn on a heavy fixed rear axle.

Note the Decauville form of guarantee. Decauville quality makes this possible.

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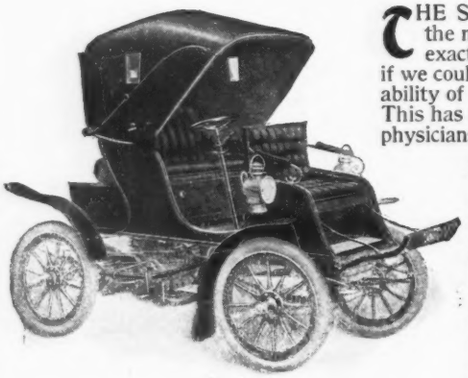
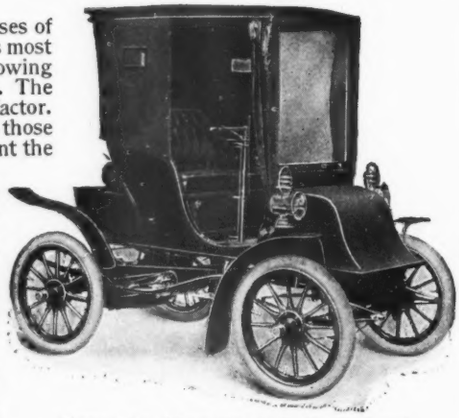
We will appoint desirable agents in unoccupied territory.

Pierce Stanhope



Folding Front Seat and Full Victoria Top

THE Stanhope Models are peculiarly adapted to the uses of the medical profession. Selecting that profession as most exacting, we have carefully studied its need, knowing if we could please the physicians we could please anyone. The ability of an automobile to run at all times is the first factor. This has been demonstrated without a single doubt, and those physicians who at first have kept horses to supplement the automobile have since sold them as needless. The second factor is expense. This we are able to demonstrate is not to exceed the keep of one horse, with a further economy of a driver when kept in garage. The work of our Stanhope is the equivalent of three horses, and many physicians tell us that the automobile has created for them two hours daily which they never had before. In conclusion we are permitted to quote the following extract from a letter written us by a prominent Southern physician who has used our Stanhope Model during the past eight months: "As regards my Stanhope, it is, in my opinion, as near the ideal as any carriage will get to be in the next ten years. For beauty of line, it is without equal. For power, it is ample. For simplicity, ideal. On the subject of motor, permit me to congratulate you on the New Pierce. You have gone one better than your model, and as that was the best, you have done well, indeed."



Coupe Top, Glass Front, Fully Enclosed

THIS MODEL WAS THE ONLY SMALL AUTOMOBILE AWARDED A GOLD MEDAL, ENDURANCE TEST, OCTOBER, 1903.

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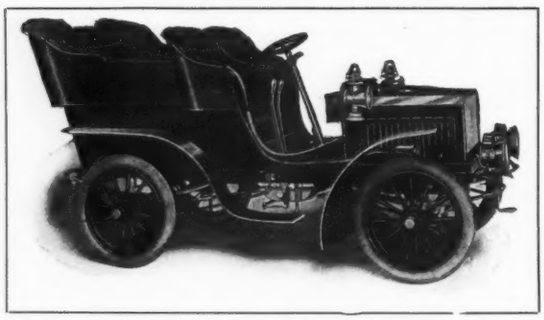
TWENTY HORSEPOWER

THE DUMONT

PRICE $2,000.00

THE MOST POWERFUL FOUR-CYLINDER AIR-COOLED CAR EVER BUILT. :: :: :: ::



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WRITE US AND WE WILL TELL YOU MORE ABOUT IT.

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COLUMBUS, OHIO.

WEIGHT 1,800

FOUR SPEEDS

AGENTS WANTED.

CLASSIFICATION DISTINCTIVE ...WHY?

THE LIGHTEST
THE STRONGEST
MOST DURABLE
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BEST FINISHED

ABSOLUTELY SAFE
PERFECTLY CLEAN
BEST TO RIDE
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THE BAKER ELECTRIC

Attractive in Rich Finish and Design. Simply Manipulated. Always Satisfactory.
A Carriage Any Lady Can Drive.

SEND FOR OUR B K CATALOG.

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The Standard of Value in Automobiles

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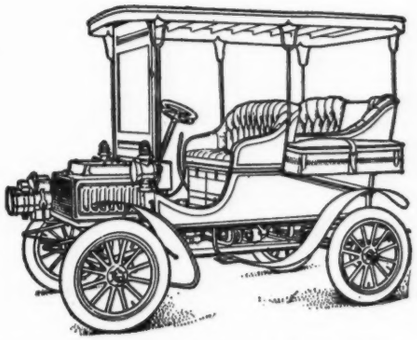
Rambler

Model "E" $650
Single cylinder, lever steering

Model "G" $750
Single cylinder, wheel steering, 81 inch wheel base

Model "H" $850
Single cylinder, with tonneau, 81 inch wheel base



Model "J" $1100
Double opposed cylinders, 16 horse power, 84 inch wheel base

Model "K" $1200
Double opposed cylinders, with tonneau, 16 horse power, 84 inch wheel base

Model "L" $1350
Double cylinder tonneau, complete with canopy top and side curtains, lamps and baskets

If you pay any more, you cannot get your money's worth
If you pay any less, you don't get satisfaction

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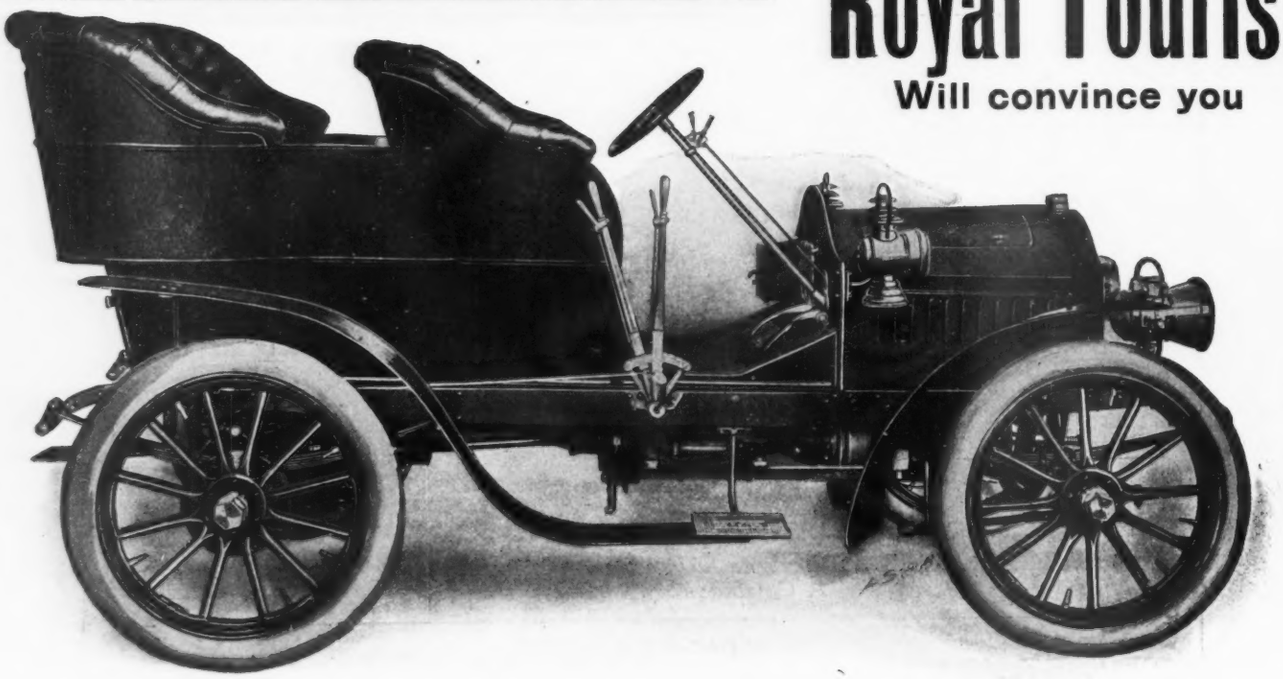
$-$ WELL INVESTED $-$

Just one ride in a

Royal Tourist

Will convince you



$2300—Model "O"—16-18 h. p.—**LOWEST FIRST COST—LOWEST UP-KEEP**—$3000—Model "K"—32-35 h. p.

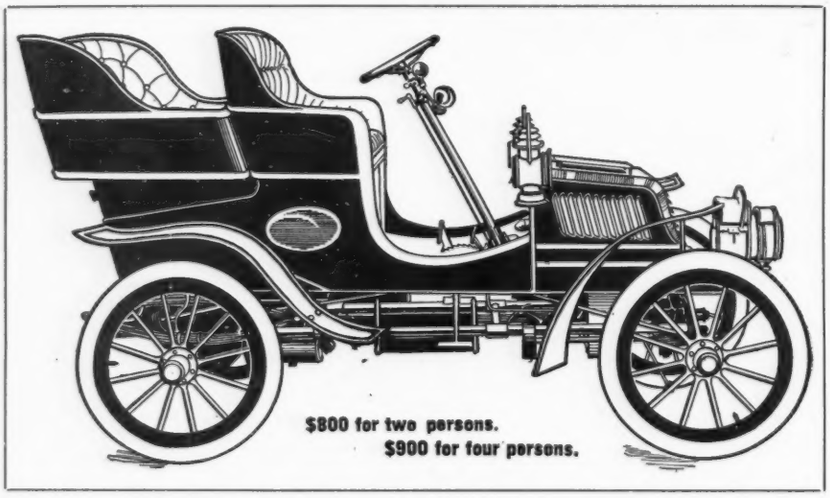
ENAMELED ALUMINUM BODIES—COMPLETE EQUIPMENT

The Royal Motor Car Co., - Cleveland, Ohio

THE DUERR-WARD CO., NEW YORK REPRESENTATIVES

THE CRESTMOBILE

Has Every Good Feature a User Gould Wish.



Power to go nearly everywhere on the high gear. Simplicity, beauty, ease of control unsurpassed. Rides easier than any other car made. An air-cooled motor that cools in hot weather, and will run in cold weather when others won't, and a shaft drive that cuts out chain troubles.

The Crest factory has been enlarged three times this year

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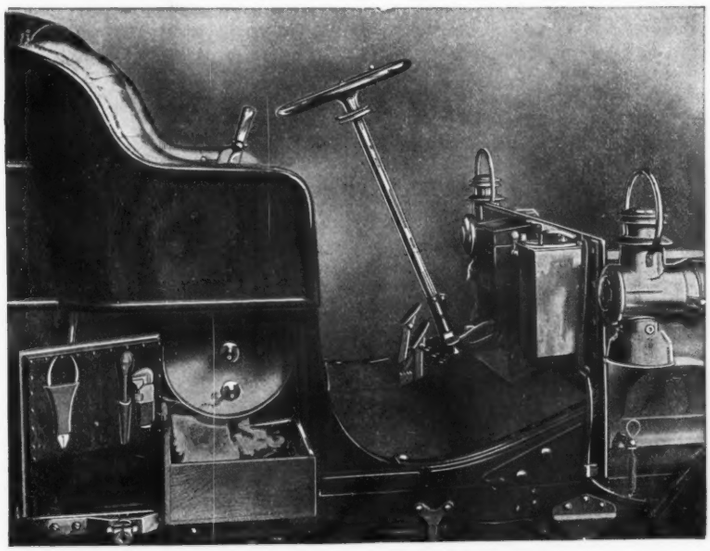

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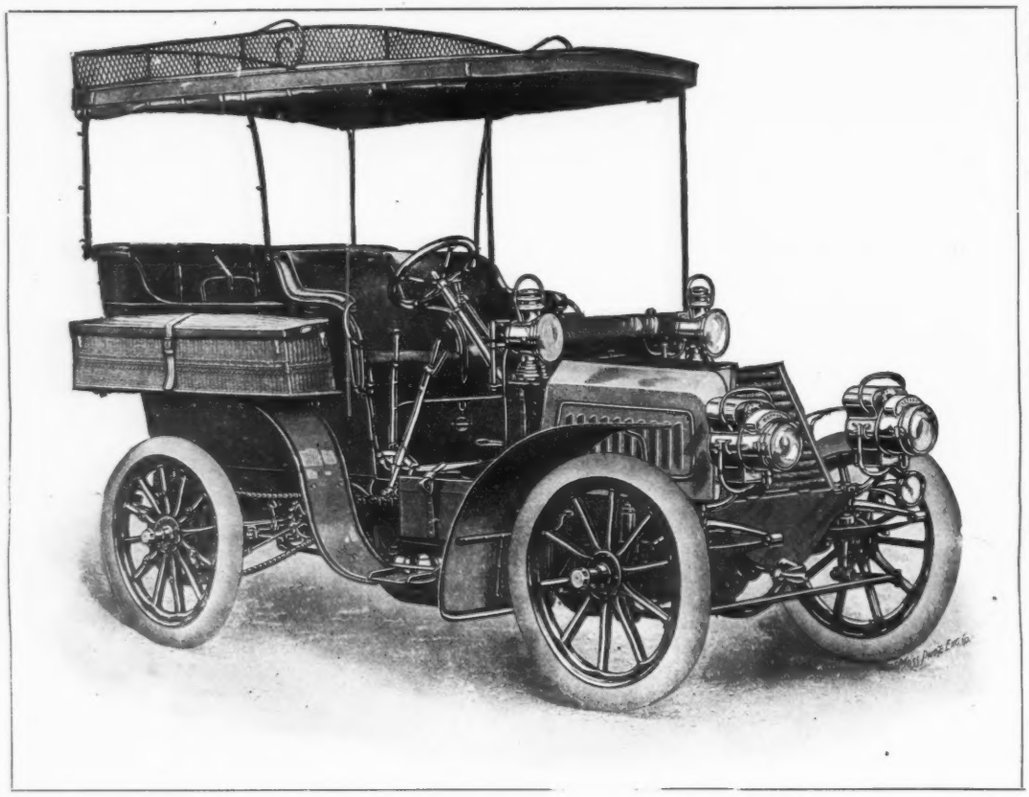

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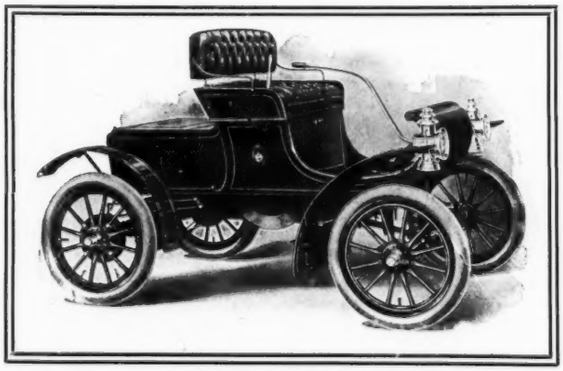

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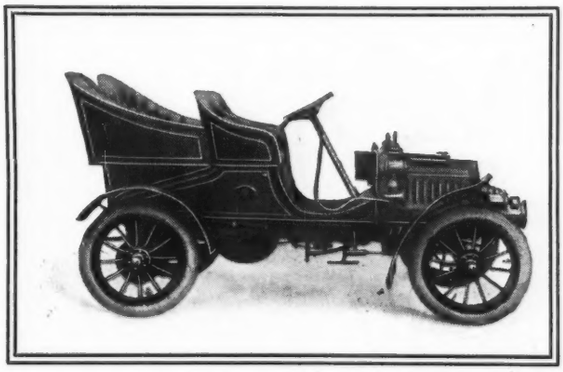

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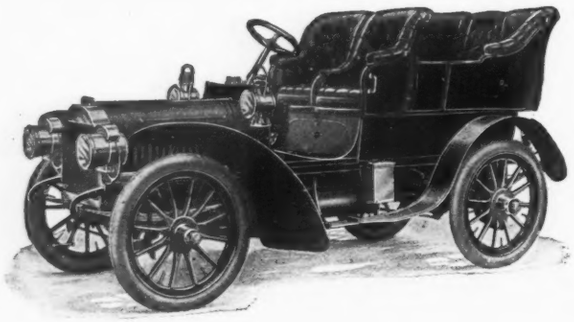

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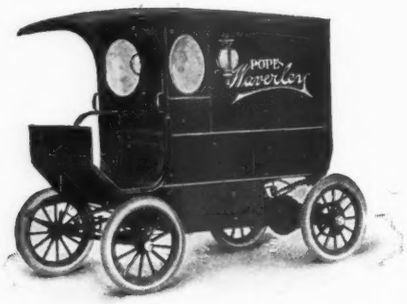

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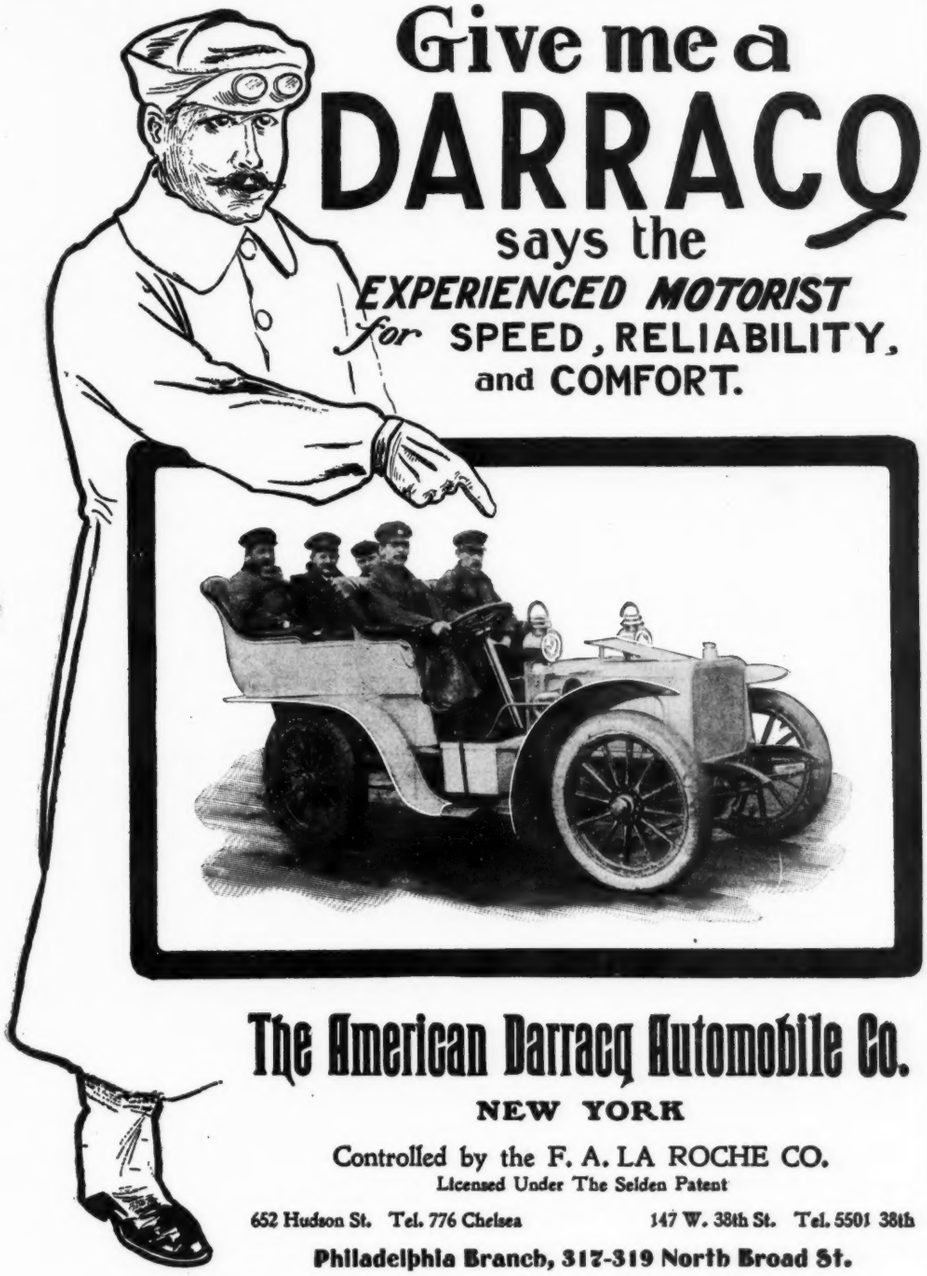

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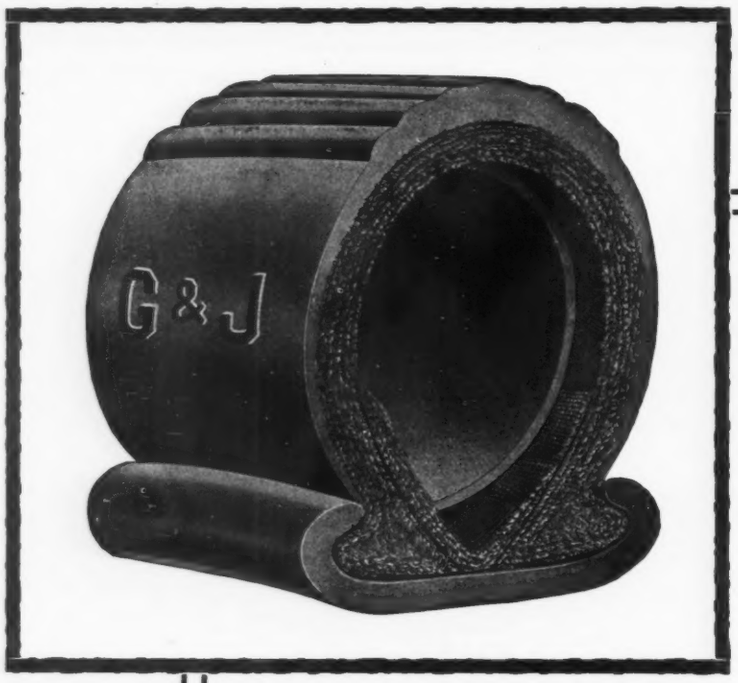

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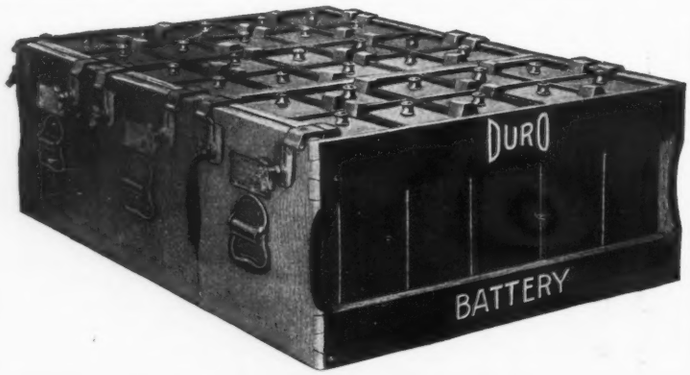

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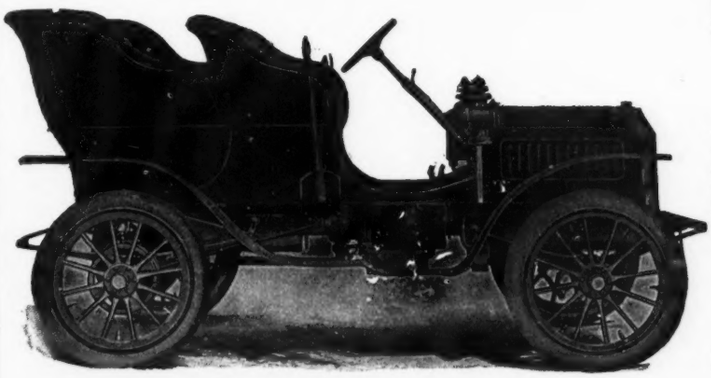

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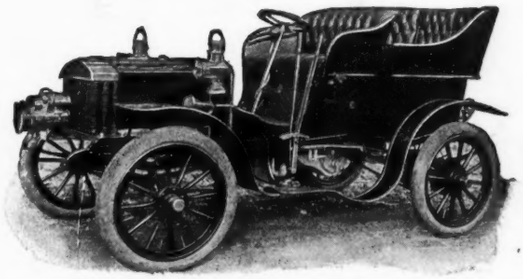

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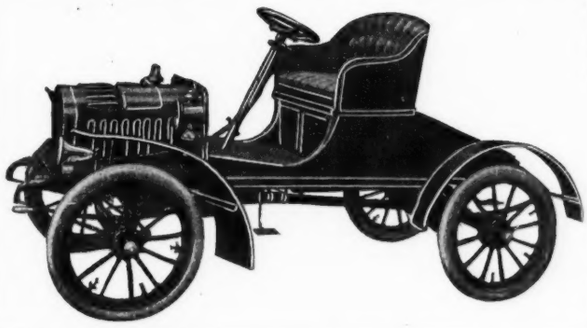

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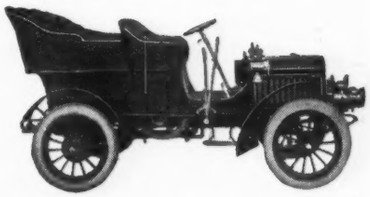

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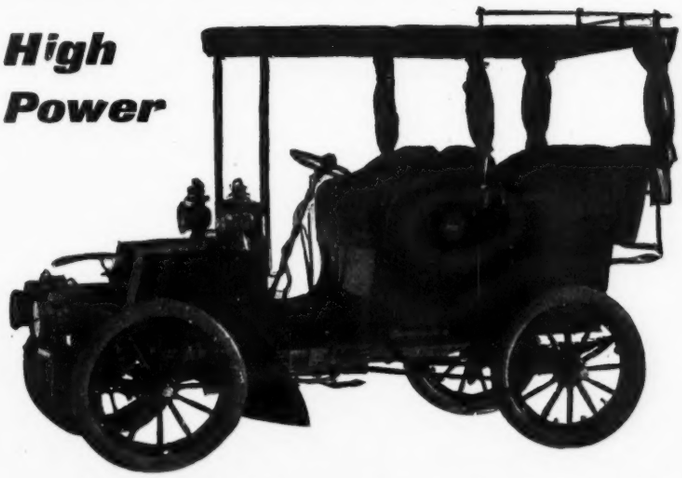

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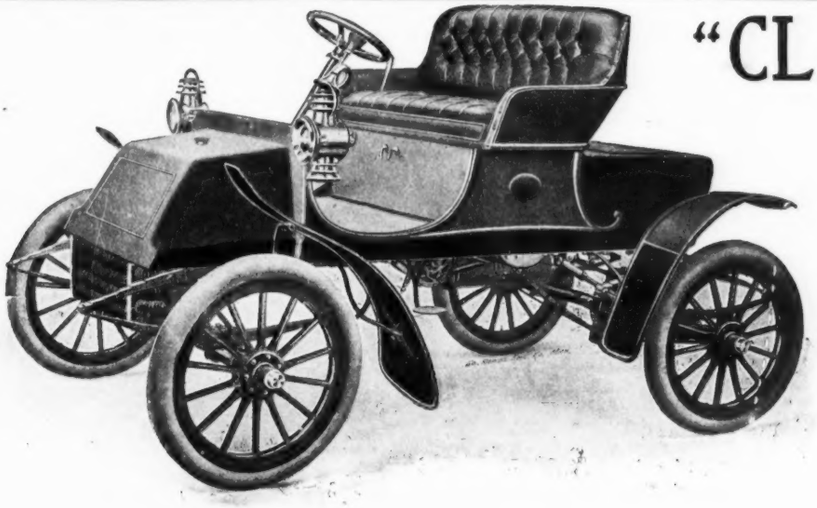

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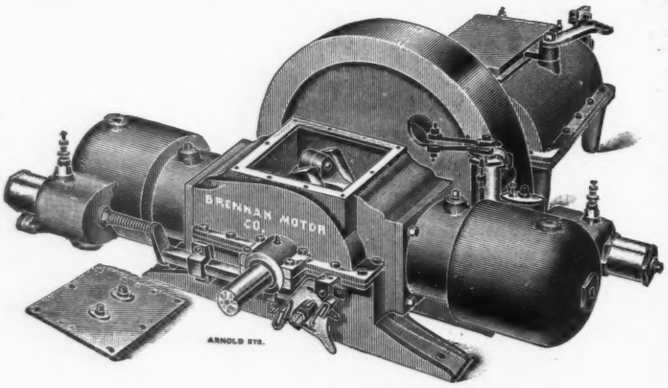

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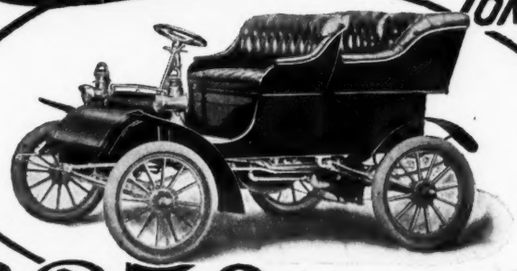

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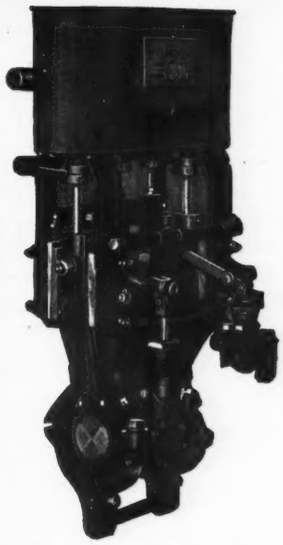

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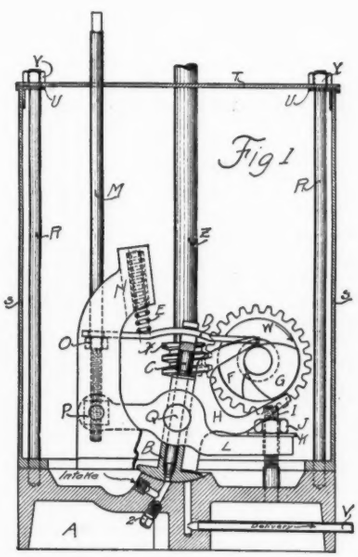

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BUSINESS SUITS, ... $35.00 OVERCOATS, ... 35.00 SWALLOWTAIL SUITS, ... 50.00 ULSTERS, ... 35.00 TROUSERS, two pair for 15.00	All Materials are Imported.	EQUESTRIAN OUTFITS. Coachmen's and Chauffeurs' Outfits a Specialty. Correspondence Solicited. Discount to the trade.

I will discuss the modes of foreign countries and their merits,

"Harvey's" 14 Jackson Blvd. CHICAGO.

TAILOR

For nearly a century established as a tailor.

Thorn Automobile Clock

(Pat. Jan. 26, 1904.)

Dust, rain, theft-proof. No opening top or bottom. Solid brass, hand turned, highly polished. Enclosed in a crystal front. If not satisfactory, money refunded. Send for illustrated circular. **Price, $3.50.**

THORN MFG. CO.
15 Front Street, SALEM, MASS.

L. W. PIPHER.....HIGH GRADE AUTOMOBILES

North Water Gap, Pa., May 14, 1904

CULLMAN WHEEL CO.,
521 Larrabee St., Chicago, Ill.:

GENTLEMEN:—Kindly herein find check for the Sprockets you made for us, and we wish to say that they are satisfactory in every way, and we hope to use more of your goods, as we have had a hard time to get sprockets that were cut proper to fit the chains. Our orders are small, but we hope to increase them in the future.

Yours very truly, L. W. PIPHER

SOLVES THE Bullock IGNITION PROBLEM.
THE BULLOCK-BERESFORD MFG. CO.,
CLEVELAND O

SPECIAL BARGAINS IN

LIMOUSINE AUTO BODIES

Suitable for Toledo, Winton, Darracq and Cadillac machines. Also Coupes for lighter machines. Canopy tops of all kinds made to order.

LIMOUSINE AND CARRIAGE MFG. CO.
542 WABASH AVENUE, CHICAGO.

LAMINATED WOOD MUD GUARDS.

We make fenders for any style machines;
We carry a stock on hand.

AMERICAN VENEER COMPANY
114 Market St., New Orange, N. J.

STANDARD AUTOMOBILE PARTS

Pressed steel frames, pressed steel hubs, malleable hubs, brakes, steering gear, chains, transmission gears, engine cranks, mufflers, front axles (tubular and forged), rear axles (chain and bevel gear drive), electric truck parts.

FEDERAL MANUFACTURING COMPANY, CLEVELAND

SELLING AGENT—HAYDEN EAMES, American Trust Building, Cleveland

THE "Exide" BATTERY FOR ELECTRIC VEHICLES

DEPOTS FOR THE PROMPT DELIVERY AND CARE OF EXIDE BATTERIES

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THE ELECTRIC STORAGE BATTERY CO. Philadelphia, Pa.

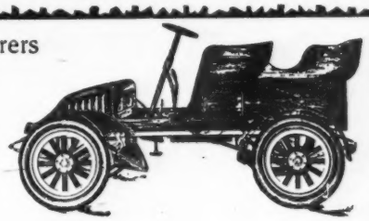
SALES OFFICES: New York, Boston, Chicago, St. Louis, Cleveland, San Francisco, Toronto, Canada.

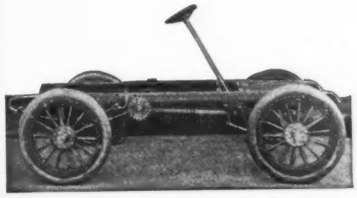
The White Sewing Machine Company

At this season find that they are so far behind in orders for the 1904 Incomparable White Steam Touring Car that it is undesirable to do more in the way of advertising than just this card.

June 16, 1904. CLEVELAND, OHIO

The Largest Manufacturers of Automobile Parts in America invite the assemblers' attention to their new prices





We supply parts and sundries of every description

J. H. NEUSTADT CO.
826-28-30 South 18th St.
ST. LOUIS, MO.

How do You Like to Ride? As your own sweet will may dictate? Up hill—down hill—at high speed or at a snail's crawl—all on the high gear? With the

PREMIER

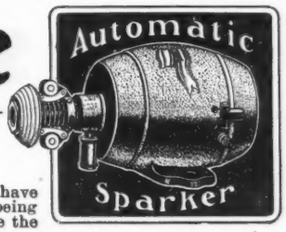
four-cylinder air cooled car, an 18 per cent grade 1720 feet in length was taken from a standing start, and a speed of 28 miles per hour attained at summit of hill. Better investigate

"THE QUALITY CAR."

If interested in automobiles the PREMIER will interest you

Premier Motor Mfg. Co.
Indianapolis, Indiana.

The Apple



Don't Wait

until your battery fails you and you have had the annoying experience of being "towed back," before you investigate the

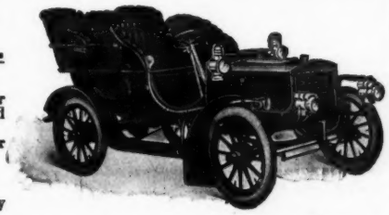
Apple Automatic Sparker

A neat compact little dynamo that gives a steadier, more reliable and hotter spark, increasing the speed and power of your engine. For Automobiles, Motor Boats and Gas Engines of all sorts. Always ready to start; dust, oil and water proof. You should know more about it; why not write for full information regarding our ignition apparatus today?

THE DAYTON ELECTRICAL MFG. COMPANY, 75 Riebold Building, DAYTON, OHIO.

The Chainless WOLVERINE

A Live Proposition For Live Agents



A Few of Its Characteristics Are:

Bevel gear drive with sliding gear transmission, three speeds ahead and reverse.
Speed range from 6 to 35 miles an hour
Long wheel base.
Large, high back tonneau.
Finest leather upholstering.
Space under tonneau floor to carry extra tire, rain covers, etc.
Brakes positive and operated by foot.
Wheels wooden of heavy artillery pattern, and fitted with 30x3½-inch Diamond Tires.
Ignition by jump spark, automatically controlled
Sight feed oiling device on dash; 500 miles on one oiling.
Beautiful in appearance and handsomely finished.

PRICE $1750

THE REID MFG. CO., DETROIT, MICH.
New York Agents: HORACE B. DAY & CO., 60 W. 43d St., near 5th Ave.
M. K. FRANK, 549 Rookery Bldg., Chicago, Distributor for Chicago; THE IRGENS AUTO CO., 1111 Washington St., Oakland, Cal., Distributors for Northern California.

MUD GUARDS

To Fit Oldsmobiles Or Other Runabouts.

With Forged Irons Ready to Attach.

QUICK DELIVERY ON ONE SET OR 500 SETS.

Interesting Prices if Ordered at Once.

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750 Bellevue Ave., Detroit, Mich.

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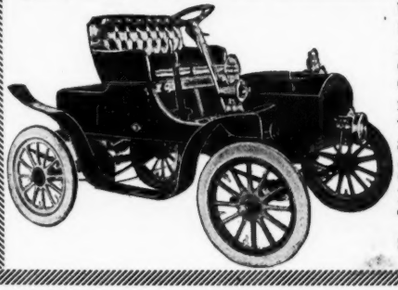
Built for American Roads

Mud, Sand and Hills shrink before it. A model of simplicity. Quiet, Safe, Powerful and Economical. More power per pound than any other car on the market. Cylinder 4⅝ x 5¾. The only Runabout equipped with sliding Gear Transmission on the market to-day. Agents wanted. Write for prices and catalogue.



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Members of the Association of Licensed Automobile Mfrs.
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SANDUSKY • • OHIO

A GOOD REPUTATION in the past is a better recommendation than promises for the future.

STANDARD RIMS have earned their reputation by meritorious performances on the road.

If the Tire Inspector's Stamp is absent, you're not getting the best—a "Standard."

The Standard Welding Co.
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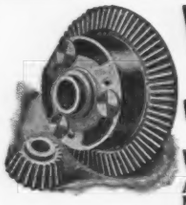
C. COLES DUSENBURY & SON, Manufacturers
396 & 398 Broadway, New York City
We Manufacture CARRIAGE Carpets and no other kind :: Send for samples



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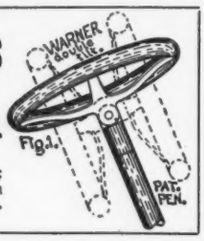
All Sizes for Both Sprocket and Bevel Gear Drive. *Satisfaction or "No Pay"*

WARNER "DOUBLE TILTING" STEERING WHEEL

Send for Sample on Approval. Cat. Free.

Warner Gear Co., Muncie, Ind. P. J. Dasey, Chicago Agt.; Boston Gear Wks., Boston Agt.; J. H. Neustadt Co.. A. L. Dyke Auto Supply Co., St. Louis Agts.; Chas. E. Miller, New York and Philadelphia Agt. for Steering Wheel only.



THE STERLING ELLIOTT BALL-BEARING

Turn Table

NOISELESS AND FRICTIONLESS. THREE SIZES—10, 1 and 12 FEET DIAMETER CARRIES 3,000 LBS.

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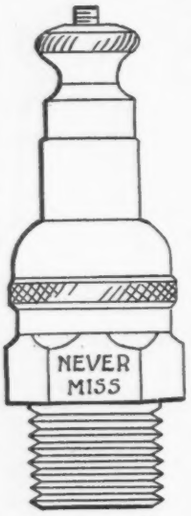
150 Nassau Street, NEW YORK

One of these Turn Tables can be seen at the new salesrooms of the WINTON MOTOR CARRIAGE CO, 1706 Broadway, New York.

TRY THE AUTOMOBILE EQUIPMENT CO.'S NEW SPARK PLUG



The "Never Miss"

While you are having plug troubles with many plugs, we can save you trouble with one plug. Guaranteed for three months.

PRICE $2.00.

Imported Porcelains and finest workmanship. If interested write for further information.

AUTOMOBILE EQUIPMENT CO.
261 Jefferson Avenue DETROIT, MICH.

STA-RITE "STAYS RIGHT THE LONGEST"

Imitation Is Infringement

in the case of our spark plugs. Beware of nameless spark plugs having the "Sta-Rite" construction and also spark plugs having nearly our construction and sold under other names at even half price. They are **not the same** as the genuine "Sta-Rite" and their manufacture will be discontinued, due to a natural death or by legal means. Send for circular of our new No. 17, 2 1-8-in. **$5.00** plug.

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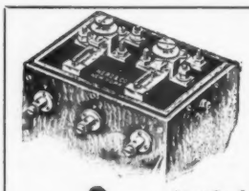
THE STA-RITE CO., 529 Broadway, New York and leading dealers
435 Wabash Ave., Chicago



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COILS

The GUENET COILS with CARPENTIER INTERRUPTER are recognized as the cream of the French market. Sticking vibrator impossible.

Irregular Ignition is Caused by a Bad Circuit Breaker

THE HERZ TIMER works as promptly and accurately as a good watch. No SPRINGS to bend or to vibrate. Sticking of vibrator impossible. TOOL STEEL CONTACTS.

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Ignition Specialists

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The handiest, purest, most efficient of all lubricants that can be used upon the bearings of an automobile.
Write for booklet 82G of Graphite Lubricants.
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THE AUTOMOBILE SUPPLY CO.

Successors to The P. J. Dasey Co.
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Parts and Accessories for Builder, Repairer and Owner. :: :: ::

Motsinger Auto-Sparker

Generator for Electric Ignition.
Guaranteed for One Year.
Sta-Rite Spark Plugs
Double Opposed and Single Cylinder Motors,
5x5. DIFFERENTIALS, STEERING WHEELS, Etc.
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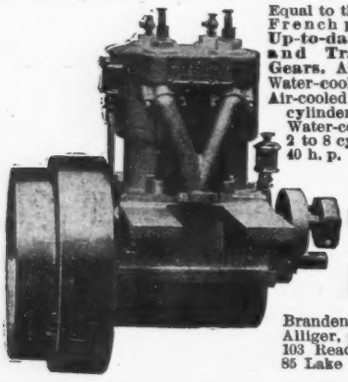

Equal to the very latest French productions—Up-to-date Engines and Transmission Gears. Air-cooled and Water-cooled Motors. Air-cooled motors, 1 to 3 cylinders, 2 to 15 h. p. Water-cooled Motors, 2 to 8 cylinders, 10 to 40 h. p.

Trebert Gas Engine Co.
160 Main St. W. Rochester, N. Y.

Brandenburg Bros. & Alliger, selling ag'ts, 103 Reade St., N. Y. 85 Lake St., Chicago.

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The special finish of our Automobile leather makes it impervious to dust or rain, and enables it to be easily restored to all of its original brilliancy and depth of color, by using a damp cloth.
Our dull finish trimming leather is without an equal from every standpoint.
No manufacturer can afford not to see our samples and learn our prices before purchasing trimming leather.

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THEY TELL THE REST
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Our specialty—We *manufacture nothing but Carriage* dry goods—WHIP-CORD—SATIN—LACE, etc., etc.
The largest variety, colors, styles and grades in the U. S. Samples sent.

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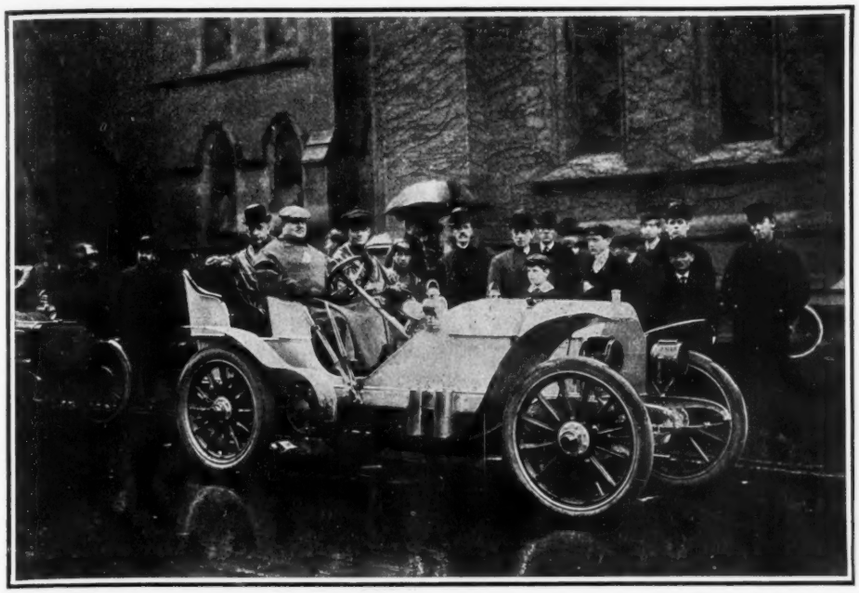


THE MOST POWERFUL CAR

IN AMERICA CARRIES THE

Most Powerful Light on Earth

The 90-h. p. Mercedes with which W. K. Vanderbilt broke all records, won a dozen or so silver plated lamps, but the owner of the car since paid us his good money for the two 8-inch RUSHMORE SEARCHLIGHTS and new automatic generators seen in the cut and says he would not think of riding without them.

MORAL:
Good things are not given away.

Rushmore Dynamo Works, PLAINFIELD, NEW JERSEY

AT LAST

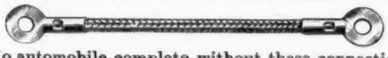
The M'Gehan Dashboard Trip Odometer
Also Registers Total Mileage

The automobile is perfectly equipped. Distance recorded always readable from your seat; durable and accurate. Write for booklet to

M'Gehan Odometer Co.
137 W. Thirty-Second St., New York

SAVE TROUBLE AND ASK FOR THE

BRIGGS BATTERY CONNECTION



No automobile complete without these connections Absolutely ***non-short circuit.*** Sample packages of connections and terminals fifty cents, postpaid. Special prices in quantities.
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"STAY-LIT"
LAMPS ARE THE BEST

ATWOOD MFG. CO., Makers
Send for Catalogue. Amesbury, Mass.

The Pedersen Improved Oilers

are the most reliable. An easy flow of oil always insured.
Finely finished, they are an ornament on any car.

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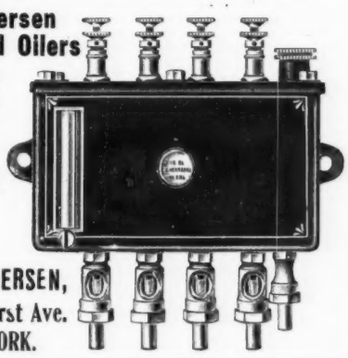

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Indestructible Sparking Plugs

Stand the Test where all others are Knocked Out of Business. Every one we sell brings us more business. This fact shows what they are. The Original and Only Double Insulated Pure Mica Core. All others are worthless imitations.

AMERICAN COIL COMPANY
WEST SOMERVILLE, MASS.
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Portable Auto. Houses

Has it ever occurred to you that the cost of storage for the next few months would pay for your own house? Write for cuts and sizes to

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Transmission Gears
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COLCORD UPTON,
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Perfect Ignition

IS OBTAINED BY USING THE

Ruckert Storage Battery Igniter

Any Voltage or Capacity
Send for Booklet and Prices

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Era in Jack Making

Searls'

Folding Auto and Carriage Jacks

Remodeled and improved. To range from 8½ inches high up to highest carriage wheels. ***Not equaled by all others on earth bunched.*** Send for Catalogue

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Please Mention Motor Age

YANKEE SILK CAP

PRICE $1.50

Very swell—Silk brilliantine. Color, either light cream or grey; featherweight—very cool. Eastland shape, same fabric and price

Everything for the Automobile.
Big Free Catalogue. Discounts to Dealers
E. J. WILLIS CO., 7 Park Place, New York

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Makers of Good
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You are sure to obtain what you wish.

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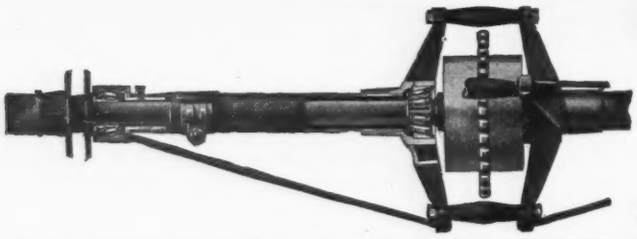

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Only Roller Bearing capable of taking up all wear.
Warranted for two years.

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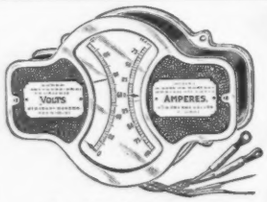

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WESTON ELECTRICAL INSTRUMENT CO.

Electrical Measuring Instruments *for use in*

Electrical Carriages and Charging Stations

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Switchboard Ins't Type K.

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During our extensive experience with the so-called soot-proof spark plugs, we have found that it is impossible to construct an absolutely soot-proof Plug, and with this dea in view we have constructed a plug that is as near soot-proof as possible to make, and one that can be cleaned, taken apart and replaced in a minute by simply removing one nut. We use no packing, cement or other useless articles, and our plug will hold compression better than any plug now on the market. All parts of the plug are allowed to expand.

Order one of these Edisonia Non-Soot-Proof Spark Plugs and enjoy your ride without having ignition troubles.

The W. L. EDISON AUTO SPECIALTY CO.
717 Thirteenth Street, Washington, D. C.

Going to Ride? For Pleasure? How can you enjoy it while in constant fear of collapsed tires?

On Business? Time is money, and you want no mishap on the way. ***The Tennant Pneumatic Puncture-Proof Tire*** on your auto guarantees both pleasure and safety. It can neither be punctured nor deflated by cracking or breaking of the inner tube. Our free catalogue, sent on request, tells all about it.

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OVER 15,000 IN USE.

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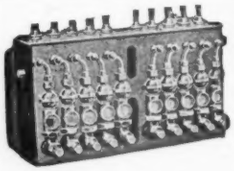

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A complete line of Head, Side and Tail Gas and Oil Lamps.

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"The Proof of the Pudding is the Eating Thereof"

Therefore if interested in a **Reliable** Tire call at our **Eastern Branch, 1784 Broadway**, and have a ride in a car equipped with our tires.

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AKRON, OHIO

THE GOULD CARBURETER

Is acknowledged to be the greatest gas-making machine yet produced. We guarantee it to give a perfect mixture of gas in any atmosphere, whether gasoline is good or bad, in warm or cold weather, wet or dry, or whether the engine runs fast or slow, without any adjustment. There is but one lever, the throttle lever, which controls the speed of the engine. There are no moving parts to wear out, no valves to lift, no valve to turn when you start or stop. It is always ready. Price, $4.50. GOULD MFG. CO. Trenton, N. J. Main Office, 109 N. Broad St. Jno. Howard, Manager.

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for general battery testing, 0-15 and 0-20 amps. Soft-Iron Solenoid type. Ready to use, with flexible cord attached and contact spur in case, which is drawn back into case, when carried in pocket. The contacts, or both cord and case, are made of non-corrosive metal. Size of watch and very light weight. Well finished throughout, can be used in any position, indicates in either direction of current. Indispensable for Autoists' use

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Wisconsin Distributors
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STORAGE, CHARGING, REPAIRING

TIRES First Quality New 30x3 Single Tube Diamond each **$15**

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Only kind of Leather
USED FOR FINE VEHICLES
SEND FOR SAMPLES
C. Coles Dusenbury & Son
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THE OLDEST AUTOMOBILE MAKERS IN THE WORLD

FIRST CAR PATENTED JANUARY 29, 1886

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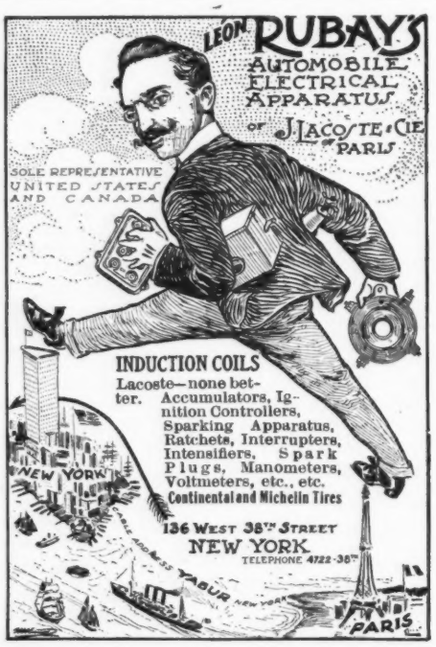

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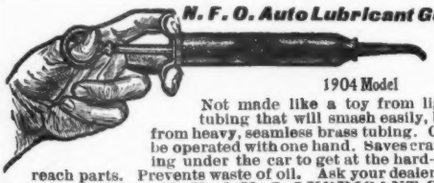

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